

### **REMARKS**

Claims 1-27 are pending in this application. Claims 4 and 21-24 are withdrawn. Claims 25-27 are added to claim subject matter to which the Applicant is entitled. Claim 2 is amended solely to overcome the objection to claim 2; the amendment to claim 2 is not made in response to any rejection nor is it intended in any way to surrender any range of equivalents. Claim 17 is amended solely to clarify that a pulse edge is applied; this amendment is not made in response to any rejection nor is it intended in any way to surrender any range of equivalents. Support for this amendment is found throughout the specification. Applicant thanks the Examiner for indicating the allowable subject matter of claims 3, 6, 7, 12 and 20. Claims 6, 7, 12 and 20 are rewritten in independent form including all of the limitations of the base claim and any intervening claims and, therefore, are now allowable.

### **OBJECTIONS**

#### **In the Specification**

The specification is objected to for alleged informalities on page 10, line 3. Applicant respectfully points out that the objected to sentence "The input of the PIC12C508 (U2) is the output frequency of the PLL" is correct because the output frequency (F2) of the 4048 type PLL is fed-back to U2 in order to perform the frequency multiplication on the output frequency (F2), as described in paragraph beginning at page 9, line 22 and illustrated in Figure 3. However, in order to clarify this, amendments are made to this paragraph as shown above.

#### **In the Drawings**

The approved, corrected formal drawings are included with attached Drawing Transmittal.

#### **In the Claims**

Claim 2 is objected to because of informalities. Claim 2 is amended as shown above to overcome this objection. As amended, claim 2 corresponds to the description found, for example, in the paragraph beginning at page 9, line 22 of the specification.

## REJECTIONS

Claims 1, 2, 5, 8-11, and 13-19 are rejected under 35 U.S.C. 102 (e) as being anticipated by Guenther et al ("Guenther"). Applicant respectfully traverses this rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); see also MPEP § 2131. "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. In re Bond, 15 USPQ2d 1566 (Fed. Cir. 1990).

Guenther does not expressly or inherently describe each and every element of independent claim 1. For example, Guenther does not expressly or inherently describe:

a mixer, coupled to the frequency generator circuit and the pulse source circuit, for receiving signals related to the first and second frequency signals and for mixing the received signals to produce an output signal,

as in claim 1. Paper No. 7 cites to pulse amplifier 54 as being the mixer. Amplifier 54 is not a mixer. Amplifier 54 does not "mix" received signals to produce an output signal. Indeed, Guenther describes that the amplifier 54 "receives the current *signal* (not signals) from the pulse shaper 52 and converts the current *signal* to a voltage signal and amplifies it." Col. 6, lines 54-56 (Emphasis added). Therefore, at least since Guenther fails to describe "a mixer," claim 1 is not anticipated by Guenther. Dependent claims 2, 3, 5, 8-10 and 25-27 are allowable at least for this reason and the independent features they describe. Accordingly, Applicant respectfully requests allowance of these claims.

Further, Guenther does not expressly or inherently describe each and every element of independent claim 11. For example, Guenther does not expressly or inherently describe "a re-synchronizer coupled to the sample-hold latch," as in claim 11. Paper No. 7 cites to flip-flop 80 as being the re-synchronizer. Flip-flop 80 is not a re-synchronizer. Flip-flop 80 does not re-synchronize. Rather, flip-flop 80 is used to switch the pulse shaping circuit 88 on and off (see, e.g., col. 9, lines 1-3 and Figure 9).

Guenther also does not expressly or inherently describe "a voltage comparator coupled to the pulse source and the terminal," as in claim 11. Paper No. 7 cites processor 34 as being the

voltage comparator. Processor 34 is not coupled to the terminal, as claimed in claim 11.

Therefore, since Guenther does not describe a re-synchronizer or voltage comparator, claim 11 is not anticipated by Guenther. Dependent claims 13-16 are allowable at least for this reason and the independent features they describe. Accordingly, Applicant respectfully requests allowance of these claims.

Moreover, Guenther does not expressly or inherently describe each and every element of independent claim 17. For example, Guenther does not expressly or inherently describe "mixing signals related to the first and second frequency signals to produce an output signal," as in claim 11. As described above, Paper No. 7 cites to the amplifier 54 as being a mixer and performing the mixing step in conjunction with flip-flops 80 and 82. As described above, amplifier 54 does not "mix" received signals to produce an output signal. Rather, the amplifier 54 receives the current signal, converts it to a voltage signal and amplifies it. Flip-flops 80 and 82 also do not mix received signals to produce an output signal. Therefore, since Guenther fails to describe the mixing step, claim 17 is not anticipated by Guenther. Dependent claims 18 and 19 are allowable at least for this reason and the independent features they describe. Accordingly, Applicant respectfully requests allowance of these claims.

**CONCLUSION**

Applicant respectfully maintains that the application is in condition for allowance. Therefore, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

If the Examiner believes that there are any outstanding issued, the Examiner is respectfully requested to telephone Applicant's representative below.

Respectfully submitted,

Date: **June 24, 2003**

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